

ENSO Response to Radiative Forcing

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Introduction:



Image courtesy of the Joshua Project (<https://legacy.joshuaproject.net/people-profile.php?rog3=ID&peo3=15422>)

El Niño Southern Oscillation (ENSO) is a wind and sea temperature variation period in the eastern equatorial Pacific that causes a myriad of meteorological and oceanographic affects. We seek to answer whether this phenomena is affected by radiative forcing.

Site Information:

Paleoclimate CoLaboratory

8051 Regents Dr, College Park, MD 20742

Dr. Michael Evans

(<https://www.geol.umd.edu/michaelevans>)

Our goal: To examine El Nino Southern Oscillation due to natural and anthropogenic forcing.

My goal in the lab: Investigate the frequency of El Niño/La Niña events over two time series.

Materials:

- Teak cores from Muna region (MUN6.3, TG11A)
- Cellulose preparation materials
 - Razors and marble blocks for microtoming
 - Extraction reagents
 - Silver capsule for encapsulation
- Mass spectrometer and MATLAB

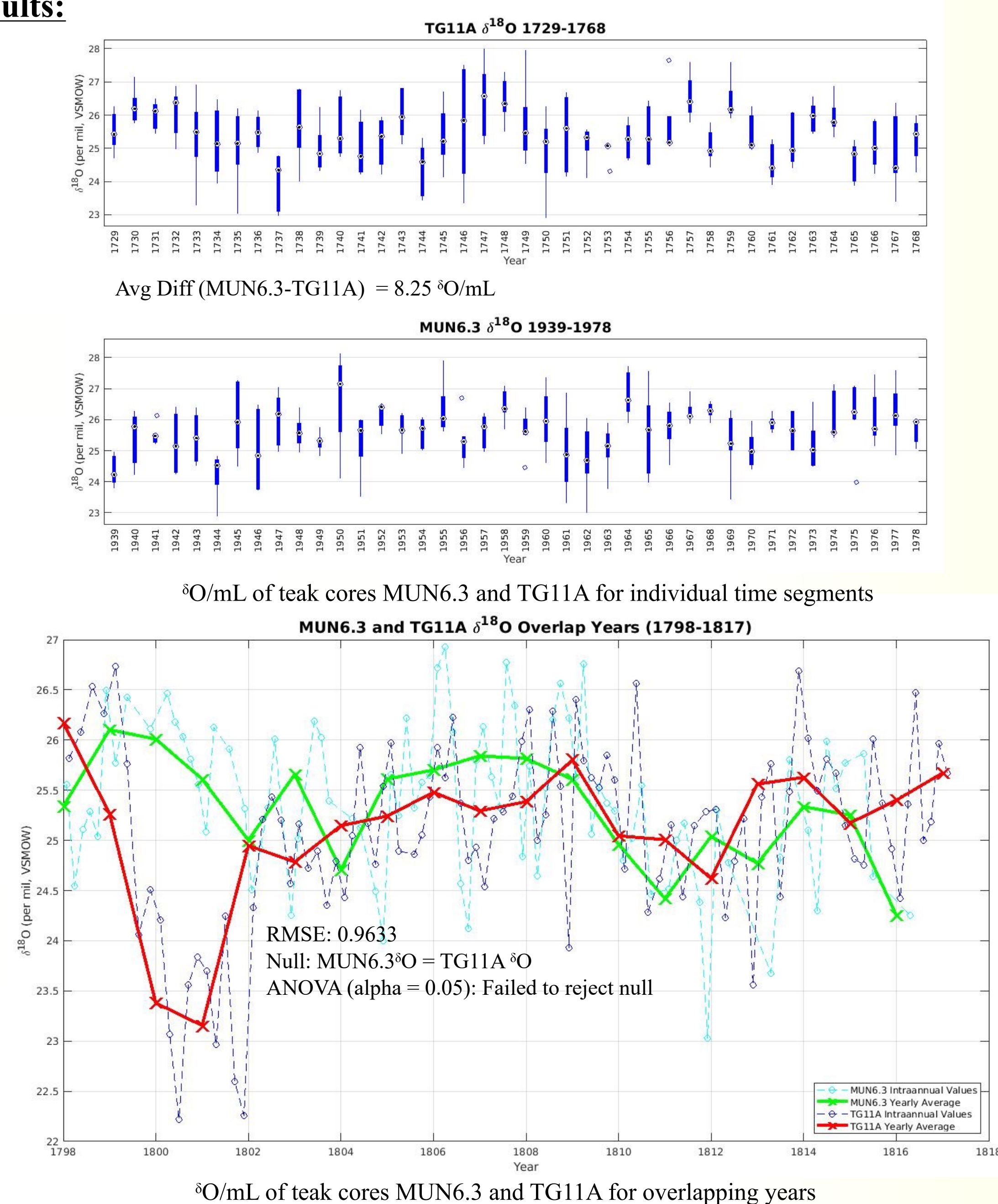
Methodology/Activities:

- Carrying out extractions/source maintenance/mass spectrometry protocols.
- Learning from/training/maintaining active communication with coworkers.

Impact:

- Gain a better idea of how the ENSO events will change as forcing grows.
 - Better understand potential ramifications of increased greenhouse gas pollution.

Results:



Discussion:

- Overlap ANOVA suggests no significant difference, but result could be misleading due to extraction and mass spectrometry errors.
- Initial Average Difference shows higher $\delta^{\text{O}}/\text{mL}$ in later years.

Future Work:

- For this project: Continuing to construct a larger time series .
- For lab: Rebuilding a new mass spectrometer.
- For lab: Conducting carbonate analysis through mass spectrometer.

Acknowledgments:

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